Notice of Allowability	Application No. 09/848,384	Applicant(s) SWETLAND, BRIAN
	Examiner Ted T. Vo	Art Unit 2122

— The MAILING DATE of this communication appears on the cover sheet with the correspondence address—

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *1/10/05*.

2. ☒ The allowed claim(s) is/are *11-32*.

3. ☐ The drawings filed on _____ are accepted by the Examiner.

4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☐ All   b) ☐ Some*   c) ☐ None   of the:

      1. ☐ Certified copies of the priority documents have been received.

      2. ☐ Certified copies of the priority documents have been received in Application No. _____ .

      3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
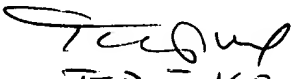
    * Certified copies not received: _____ .

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application. **THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.

    (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached

      1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____ .

    (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____ .

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)

2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)

3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____

4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material

5. ☐ Notice of Informal Patent Application (PTO-152)

6. ☒ Interview Summary (PTO-413), Paper No./Mail Date *3/18/05* .

7. ☒ Examiner's Amendment/Comment

8. ☒ Examiner's Statement of Reasons for Allowance

9. ☐ Other _____ .

TED T. VO
Primary Examiner

EXAMINER'S AMENDMENT

1.   An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

2.   Authorization for this examiner's amendment was given in a telephone interview with Applicants representative, Thomas C. Webster, Reg. No. 46,154, on 03/17/05.

Examiner Amendment is given to Claims 11, 22-25, 28, 30, and 32. The amendment corrects the typo error, 'currently canceled' in the listing of Claim 11, provides the hardware tangibility of Claim 22, and corrects the dependency of Claims 23-25, 28, 30, and 32. The Examiner Amendment is also to amend Claim 11 for having limitations/features consisting to recitations in Claim 22 to place the application in the condition for allowance.

3.   In the claims filed on 01/10/2005, amended Claims 11, 22-25, 28, 30, and 32, as follows:

11. (Currently Amended) A system comprising:

a portal server to retrieve classfiles from an Internet site on behalf of a

data processing device, the data processing device comprising a processor for

processing program code and an interpreter module for interpreting classfiles,

the portal server communicatively coupled to the data processing device over a

network;

wherein the portal server comprises a content conversion module to

analyze and convert the classfiles prior to transmission to the data processing

device over the network, the conversion comprising ~~rearranging elements of two~~

~~or more classfiles to form a unified programming object, the elements including a~~

~~plurality of constant pool entries and one or more methods and/or fields~~ generating global

method entries and global field entries within a unified programming object, and generating

global constant pool entries within the unified programming object by replacing references to

methods and field with offsets pointing to global method entries and field entries; and

wherein after the portal server generates the unified programming object,

it transmits the unified programming object to the data processing device over

the network.

22. (Currently Amended) A method implemented on a computer for converting

a plurality of classfiles into a unified classfile bundle comprising:

generating a global method entry within the unified classfile bundle for

each method within the plurality of classfiles, each global method entry

containing data related to the method from which it was generated;

generating a global field entry within the unified classfile bundle for each

field within the plurality of classfiles, each global field entry containing data

related to the field from which it was generated;

converting local constant pool entries from local constant pools of each of

the plurality of classfiles which reference methods and fields of each classfile into

global constant pool entries within the unified classfile bundle, wherein converting

comprises removing redundant local constant pool entries and replacing the

references to methods and fields within each of the local constant pool entries

with offsets pointing to the global method entries and field method entries,

respectively, within the unified classfile bundle.

23. (Currently Amended) The method as in claim 20 22 wherein converting further

comprises converting variable-length local constant pool entries from each of the

classfiles with fixed-length constant pool entries within the unified classfile

bundle.

24. (Currently Amended) The method as in claim 20 22 wherein converting further

comprises:

for each local constant pool entry; determining whether a corresponding

global constant pool entry already exists; and

if a corresponding global constant pool entry already exists, then using the

existing global constant pool entry in lieu of the local constant pool entry; and

if the global constant pool entry does not exist, then generating a new

global constant pool entry from the local constant pool entry.

25. (Currently Amended) The method as in claim 20 22 wherein each

global method entry comprises a Method Info object, and wherein generating the

Method Info object comprises directly copying data of a first type from each

method of each classfile and modifying data of a second type prior to copying the

data from each method of the classfile.

28. (Currently Amended) The method as in claim ~~20~~ 22 wherein each

global field entry comprises a Field Info object, and wherein generating the Field

Info object comprises directly copying data of a first type from each field of each

classfile and modifying data of a second type prior to copying the data from each

field of the classfile.

30. (Currently Amended) The method as in claim ~~20~~ 22 further comprising:

generating a Class Info object within the unified classfile bundle for each

header of each classfile, each Class Info object containing header data from

each classfile header.

32. (Currently Amended) The method as in claim ~~20~~ 22 further comprising:

generating a relative pointer for each global method entry and each global

field entry, the relative pointer pointing to a global constant pool entry that the

global method entry or global field entry is associated with.

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4.   This communication is in response to the amendment filed pursuant to a Request for

Continuation Examination on 01/10/2005, responsive to the Office action dated: 07/30/04. Applicants'

amendment and arguments have been considered, resulting an Examiner Amendment as given above to

place the application in condition for allowance.

Claims 11, 22-25, 28, 30, and 32, are amended, presented within the Examiner Amendment.

The arguments to the independent Claim 22 overcome the closest arts of record, Yuhder Lin,

"The Design and Implementation of Jato: A New Binary File Format for Java", June 2000, and

Bradley et al., "JAZZ: An Efficient Compressed Format for Java Archive Files", November 1998. Claim 11

as amended includes the limitations corresponding to the limitations of Claim 22.

Reasons for Allowance

5.   Claims 11-32 are allowed.

- Prior art of record, Yuhder Lin, teaches a conversion mechanism of classfiles into a unified

format within a Java system, prior transmitting to a JVM in a computer of a network. The conversion

rearranges the elements such as constant pool entries, methods, and fields of one or more classfiles to

form a unified class. After the unified class is created, it is available for being transmitted to a Java virtual

machine of a computer such as a computer in a network for file archives or execution.

- Prior art of record, Bradley et al., teaches a sole conversion of Java class files, where the

conversion rearranges the elements such as constant pool entries, and methods, and fields of each Java

file into a JAR file.

However, as pointed out by Applicants in the Remark filed on 01/10/05 to the amended limitation

in independent Claim 11 (now, within the Examiner Amendment above) that the standard Java

implementation as disclosed by Yuhder Lin is not a portal server to perform classfile conversion operation

(Remarks: page 9, lines 1-9). Furthermore, as pointed out by Applicants that both Lin And Bradley do not disclose generating global method entries and global field entries within a unified programming object, and generating global constant pool entries within the unified programming object by replacing references to methods and field with <u>offsets</u> pointing to global method entries and field entries (Remarks, page 10, last five lines and page 11, lines 1-6); Applicants pointed out the "branch offset", particularly disclosed in Bradley, is related to branch instruction rather than the offsets recited in the Claims, now recited within the Examiner Amendment to Claim 11 and Claim 22 above.

Therefore, the following is an examiner's statement of reasons for allowance: The cited prior arts taken alone or in combination fail to teach claimed invention to a system and a computer-implemented method converting a plurality of classfile which comprise at least features:

"*generating global method entries and global field entries within a unified*

programming object, and generating global constant pool entries within the

unified programming object by replacing references to methods and field with

offsets pointing to global method entries and field entries"

as recited in independent Claims 11 and in such manners in independent 22.

6.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ted T. Vo whose telephone number is (571) 272-3706. The examiner can normally be reached on 8:00AM to 5:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tuan Q. Dam can be reached on (571) 272-3694. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Any inquiry of a general nature or relating to the status of this application should be directed to the TC 2100 Group receptionist: 571-272-2100. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR. Status information for

unpublished applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Ted T. Vo
Primary Examiner
Art Unit 2122
March 18, 2005